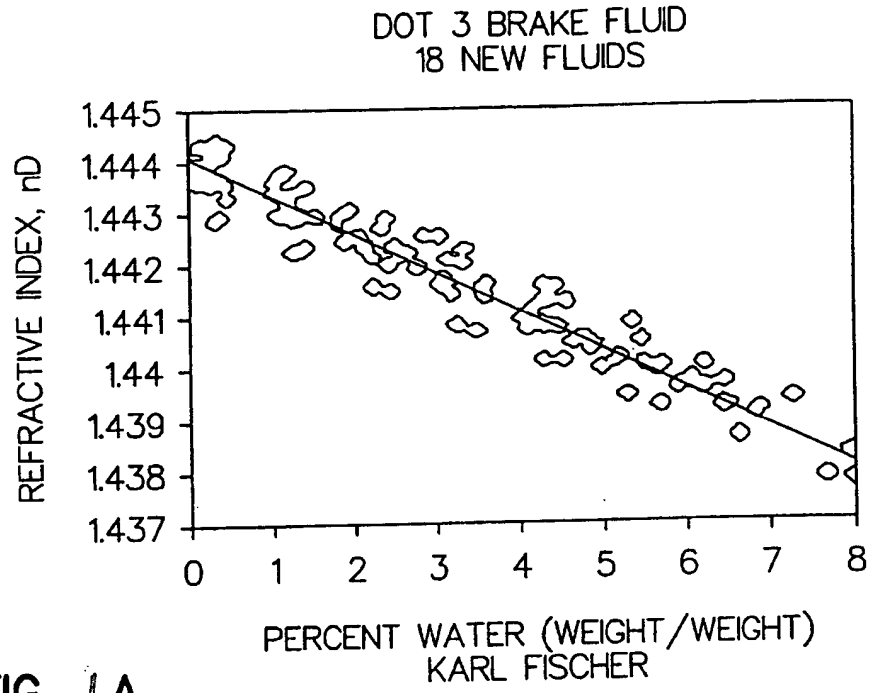
DOT 3 BRAKE FLUID
18 NEW FLUIDS
REFRACTIVE INDEX, nD
1.445
1.444
1.443
1.442
1.441
1.44
1.439
1.438
1.437
0
1
2
3
4
5
6
7
8
PERCENT WATER (WEIGHT/WEIGHT)
KARL FISCHER

FIG. 1A

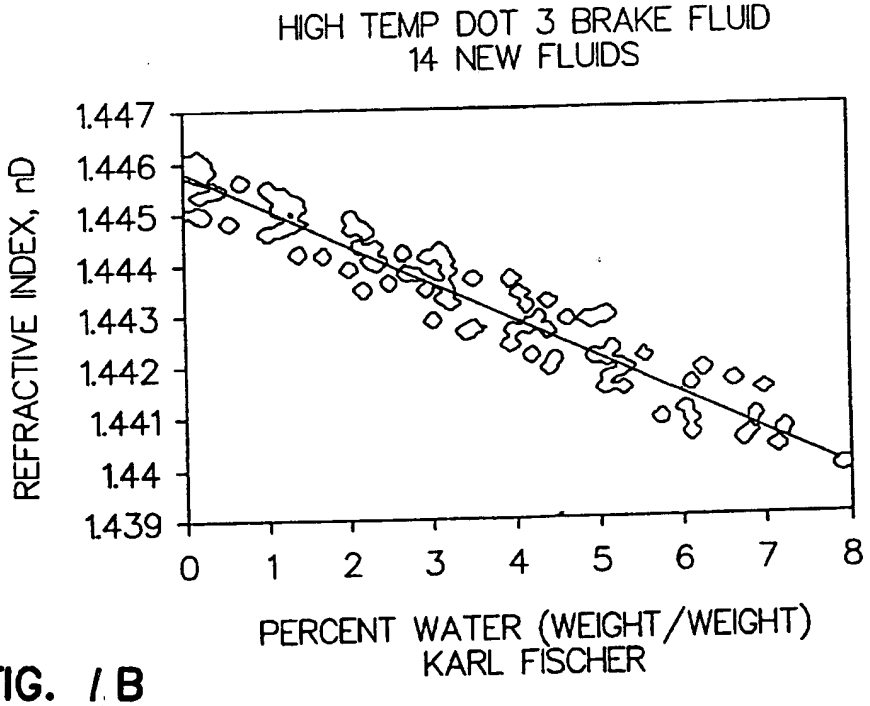
HIGH TEMP DOT 3 BRAKE FLUID
14 NEW FLUIDS
REFRACTIVE INDEX, nD
1.447
1.446
1.445
1.444
1.443
1.442
1.441
1.44
1.439
0
1
2
3
4
5
6
7
8
PERCENT WATER (WEIGHT/WEIGHT)
KARL FISCHER

FIG. 1B

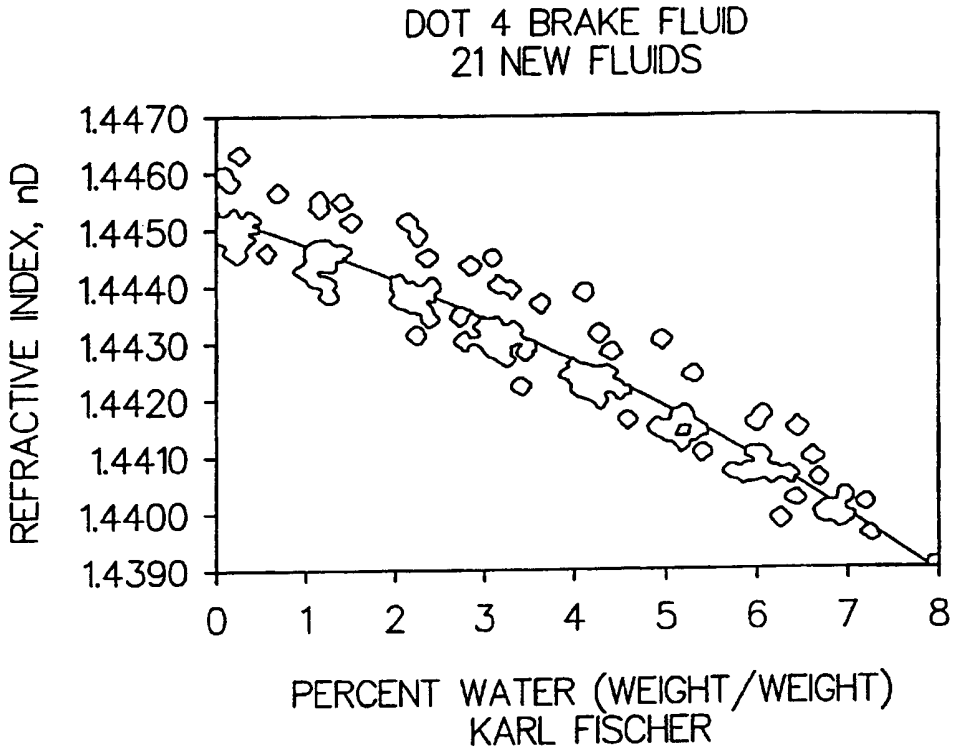
DOT 4 BRAKE FLUID
21 NEW FLUIDS
REFRACTIVE INDEX, nD
1.4470
1.4460
1.4450
1.4440
1.4430
1.4420
1.4410
1.4400
1.4390
0
1
2
3
4
5
6
7
8
PERCENT WATER (WEIGHT/WEIGHT)
KARL FISCHER

FIG. 1C

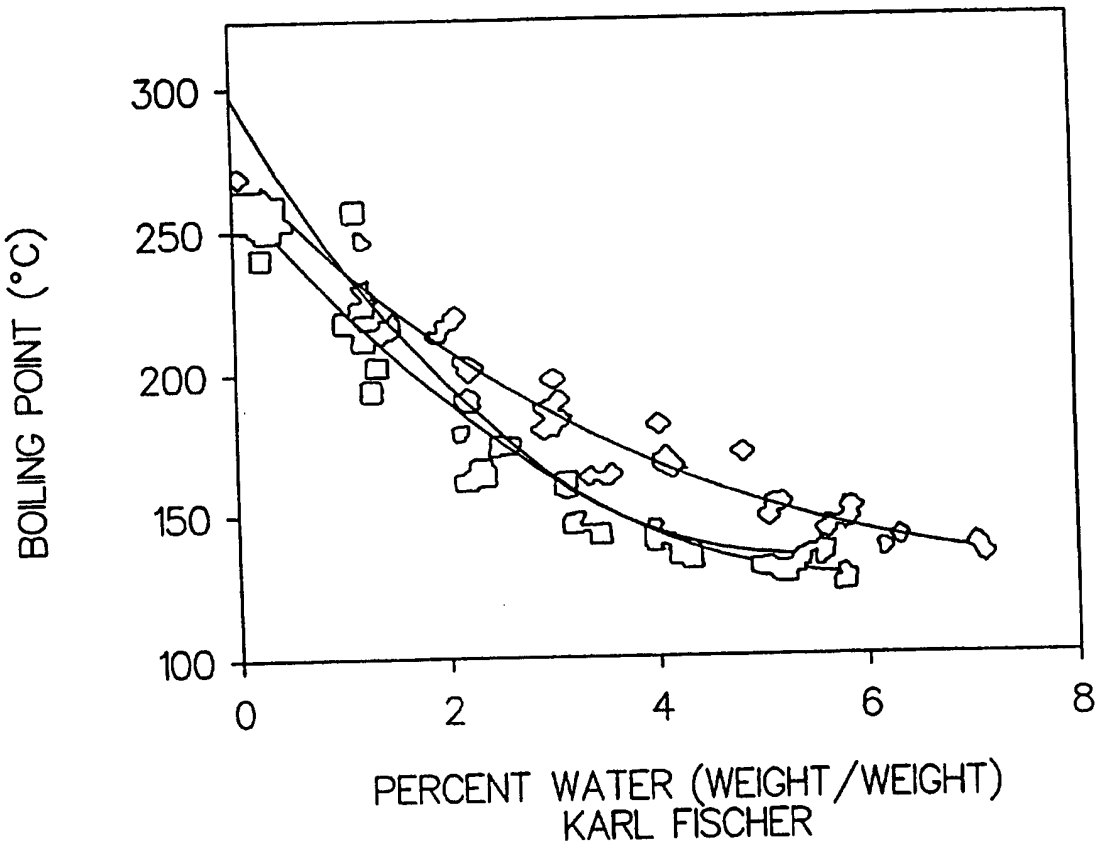
300
250
200
150
100
BOILING POINT (°C)
0
2
4
6
8
PERCENT WATER (WEIGHT/WEIGHT)
KARL FISCHER

FIG. 2

	BOILING POINT	PERCENT H_2O (WT./WT.)	REFRACTIVE INDEX, nD
DOT 3, N=7			
FRESH BOILING POINT	252 C. +/− 7 C.	0.23 +/− 0.14	1.4435 +/− 0.0004
RANGE	240–262 C.	0.06–0.42	1.4428–1.4440
MIN. DRY BOILING POINT	250 C.	1.15 +/− 0.38	1.4429 +/− 0.0004
RANGE			
MIN. WET BOILING POINT	140 C.	4.4 +/− 0.3	1.4406 +/− 0.0004
RANGE			
HIGH TEMP DOT 3, N = 6			
FRESH BOILING POINT	281 C. +/− 18 C.	0.14 +/− 0.07	1.4457 +/− 0.0004
RANGE	263–305 C.	0.07–.26	1.4449–1.4460
MIN. DRY BOILING POINT	205 C.	1.56 +/− 0.35	1.4447 +/− 0.0004
MIN. WET BOILING POINT	140 C.	4.65 +/− 0.39	1.4425 +/− 0.0004
DOT 4, N = 9			
FRESH BOILING POINT	259 C. +/− 18 C.	0.18 +/− 0.08	1.4452 +/− 0.0005
RANGE	248–264 C.	0.06–0.30	1.4448–1.4462
MIN. DRY BOILING POINT	230 C.	1.11 +/− 0.28	1.4447 +/− 0.0005
MIN. WET BOILING POINT	155 C.	5.1 +/− 0.46	1.4418 +/− 0.0005

FIG. 3

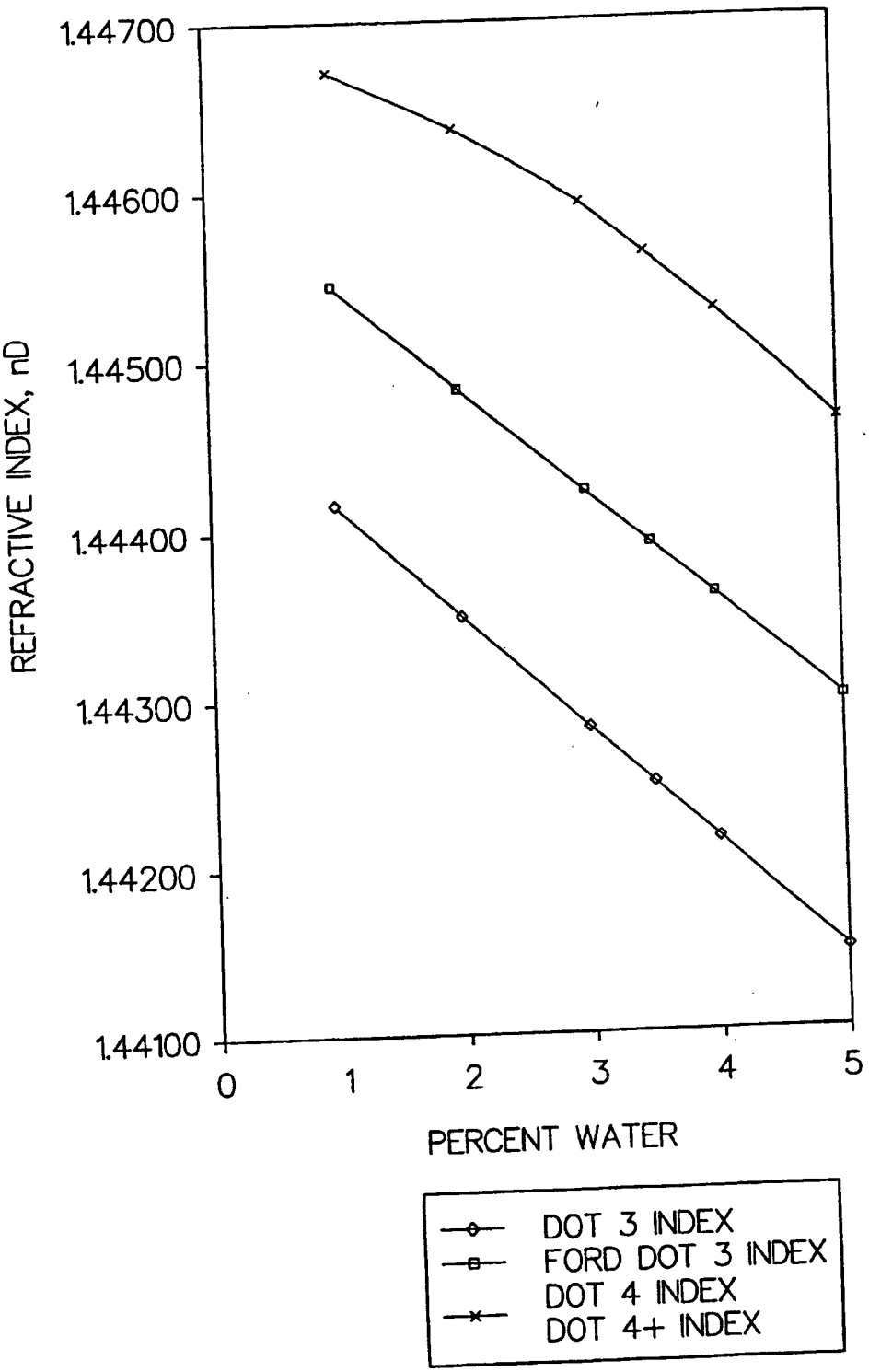
1.44700
1.44600
1.44500
1.44400
1.44300
1.44200
1.44100
REFRACTIVE INDEX, nD
0
1
2
3
4
5
PERCENT WATER
DOT 3 INDEX
FORD DOT 3 INDEX
DOT 4 INDEX
DOT 4+ INDEX

FIG. 4

WATER CONCENTRATION PERCENT (WEIGHT/WEIGHT)	DOT 3 N = 9	DOT 4 N = 7
NEW	−0.00038 +/− 0.00002	−0.00041 +/− 0.00004
2%	−0.00038 +/− 0.00003	−0.00040 +/− 0.00004
4%	−0.00039 +/− 0.00002	−0.00039 +/− 0.00003
6%	−0.00037 +/− 0.00003	−0.00038 +/− 0.00002
USED FLUID, N = 101	−0.00037 +/− 0.000014	

FIG. 5

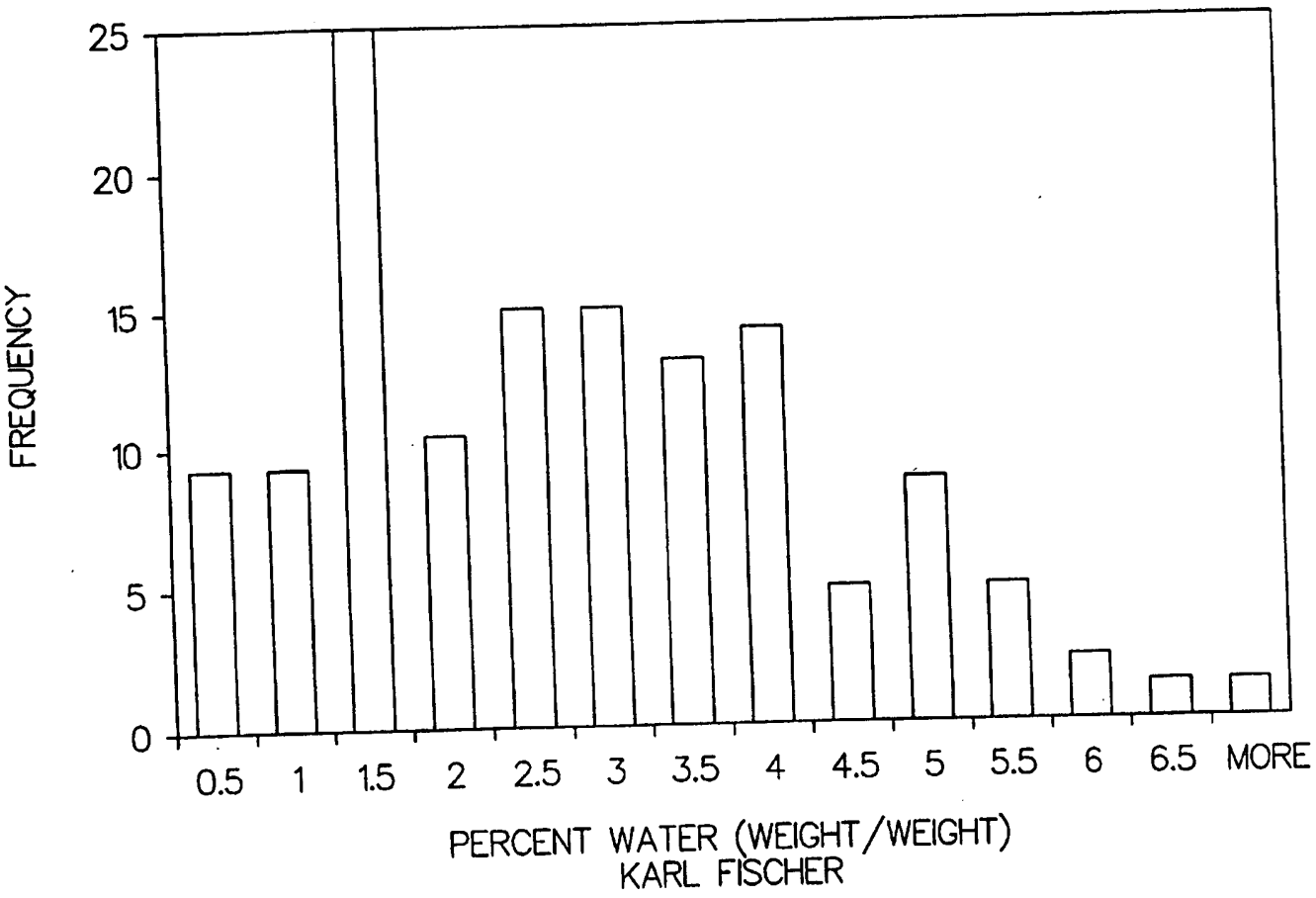
25
20
15
10
5
0
FREQUENCY
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
6.5
MORE
PERCENT WATER (WEIGHT/WEIGHT)
KARL FISCHER

FIG. 6

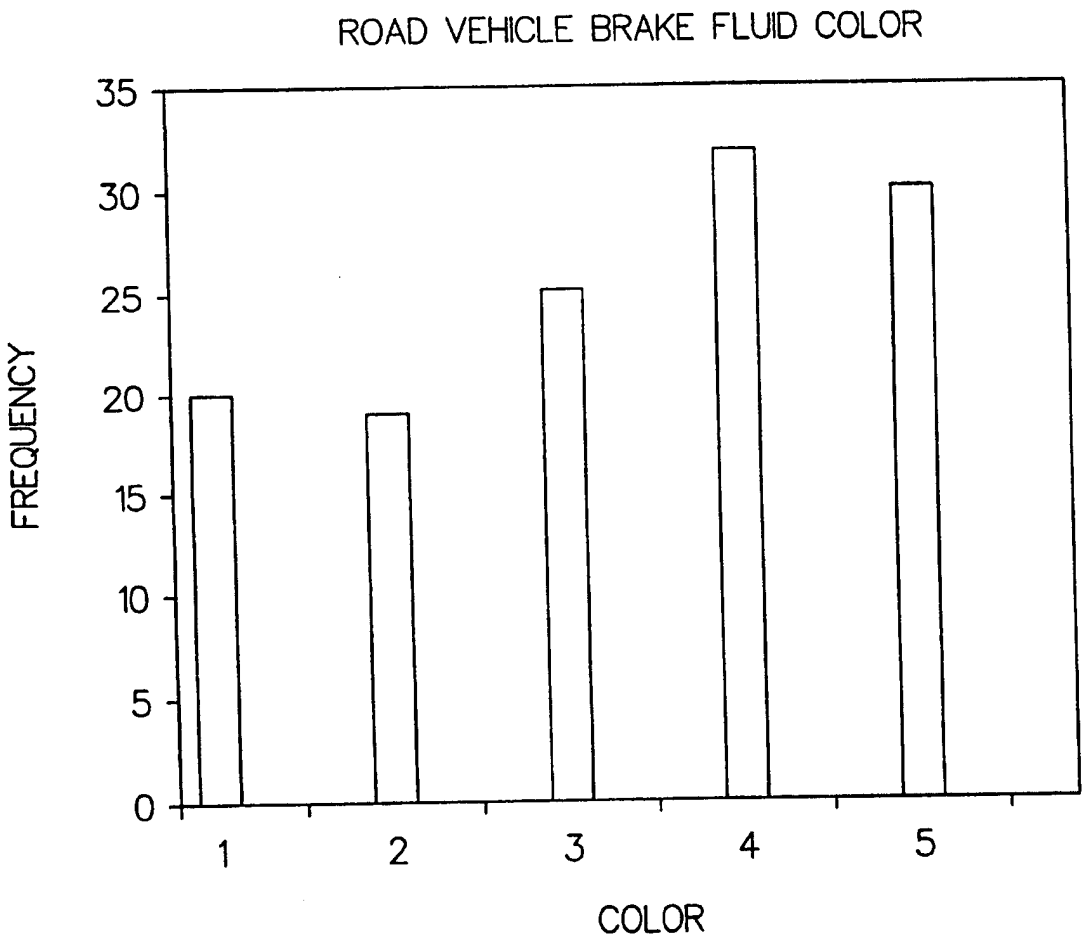
ROAD VEHICLE BRAKE FLUID COLOR
FREQUENCY
35
30
25
20
15
10
5
0
1
2
3
4
5
COLOR

FIG.7

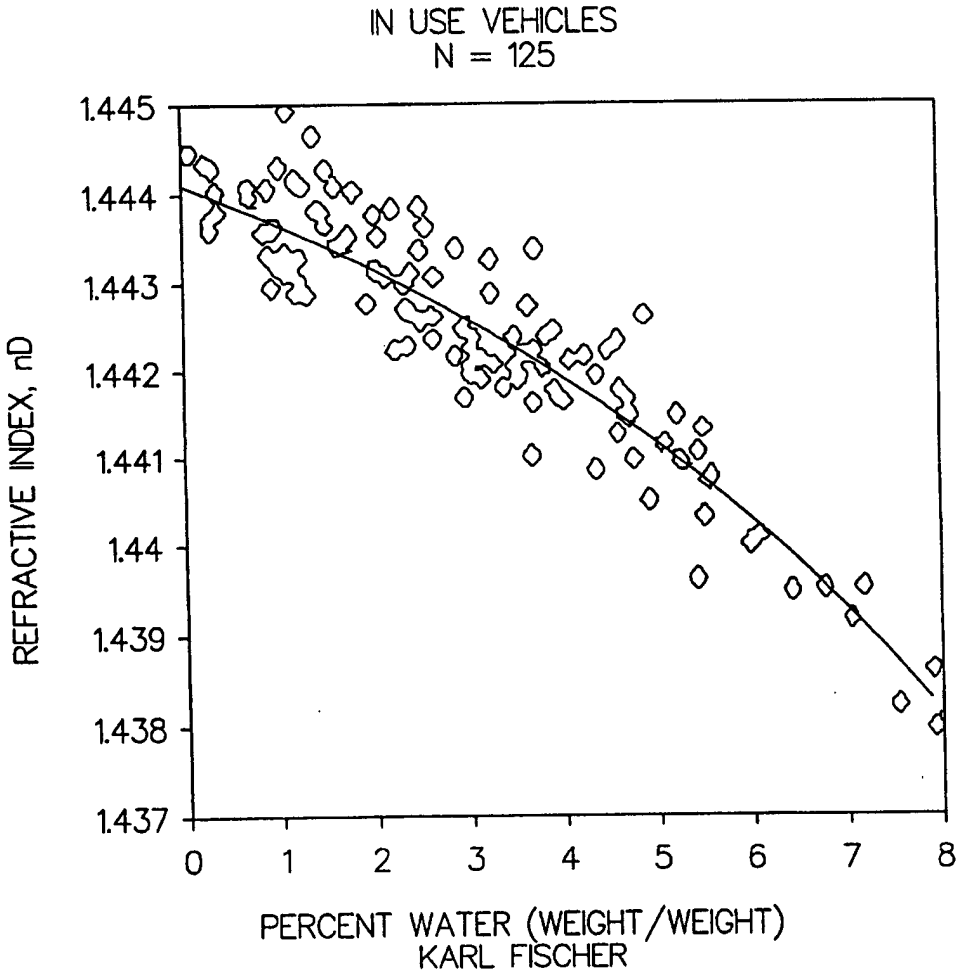
IN USE VEHICLES
N = 125
REFRACTIVE INDEX, nD
1.445
1.444
1.443
1.442
1.441
1.44
1.439
1.438
1.437
0
1
2
3
4
5
6
7
8
PERCENT WATER (WEIGHT/WEIGHT)
KARL FISCHER

FIG. 8

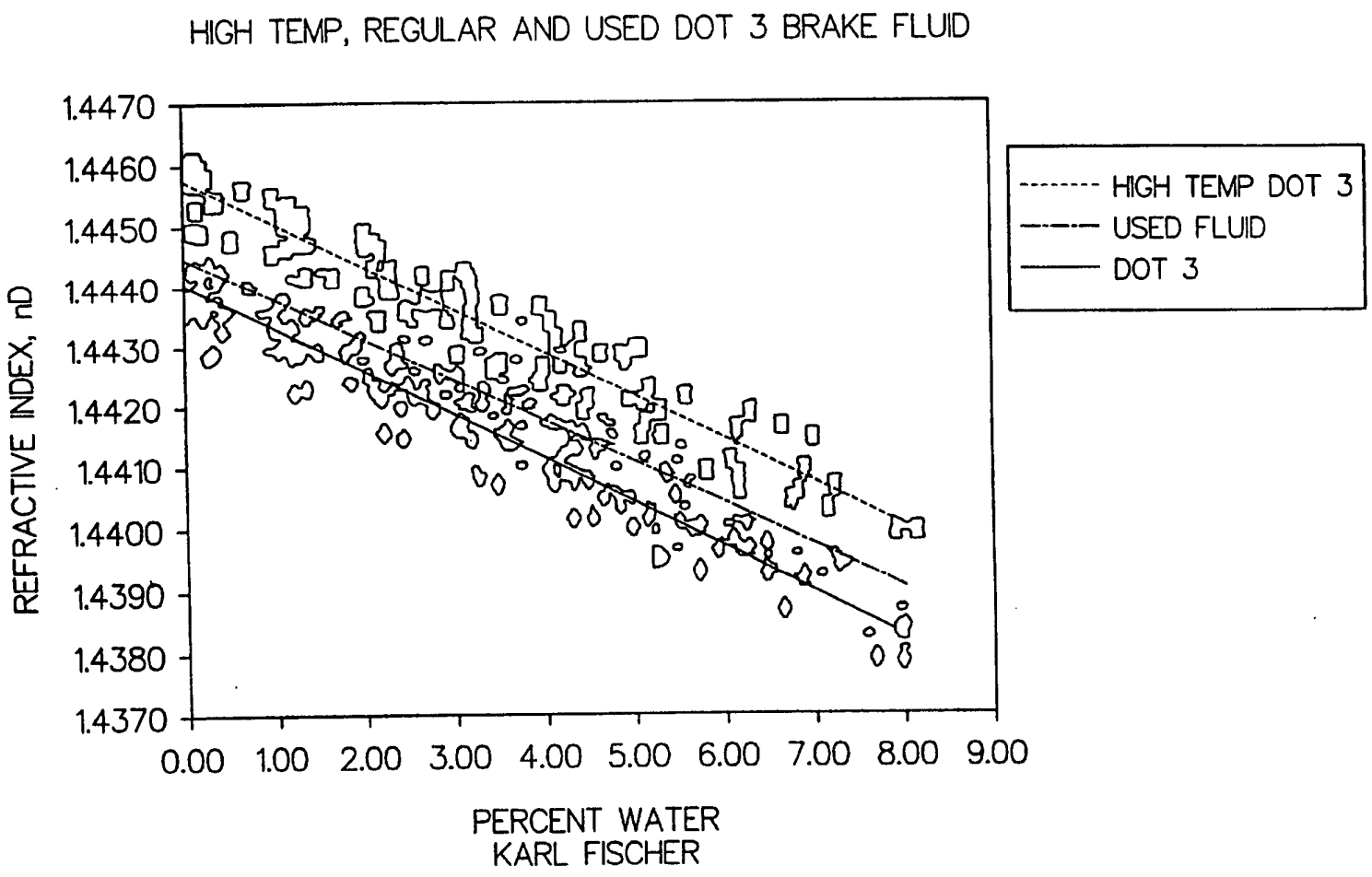
HIGH TEMP, REGULAR AND USED DOT 3 BRAKE FLUID
REFRACTIVE INDEX, nD
1.4470
1.4460
1.4450
1.4440
1.4430
1.4420
1.4410
1.4400
1.4390
1.4380
1.4370
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
PERCENT WATER
KARL FISCHER
HIGH TEMP DOT 3
USED FLUID
DOT 3

FIG. 9

FIG. 10

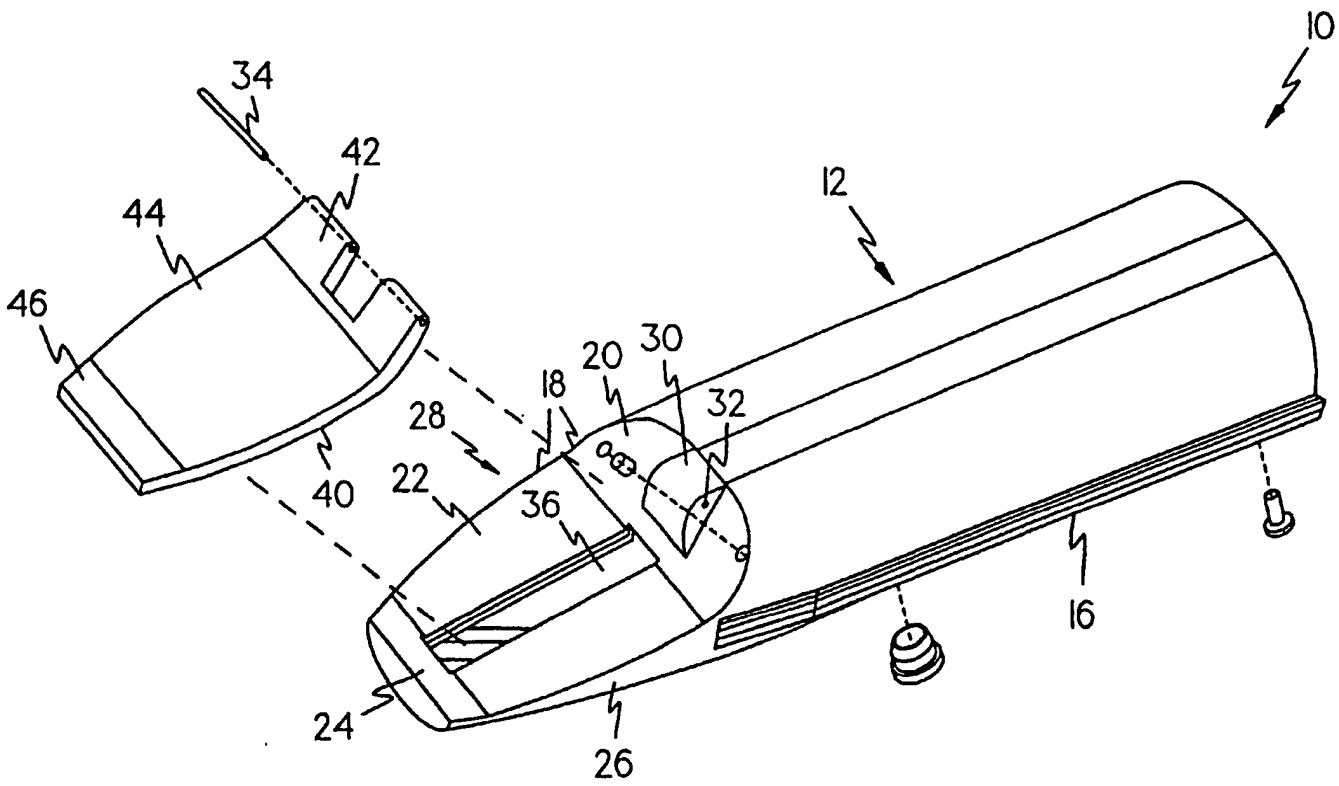

FIG. 11A

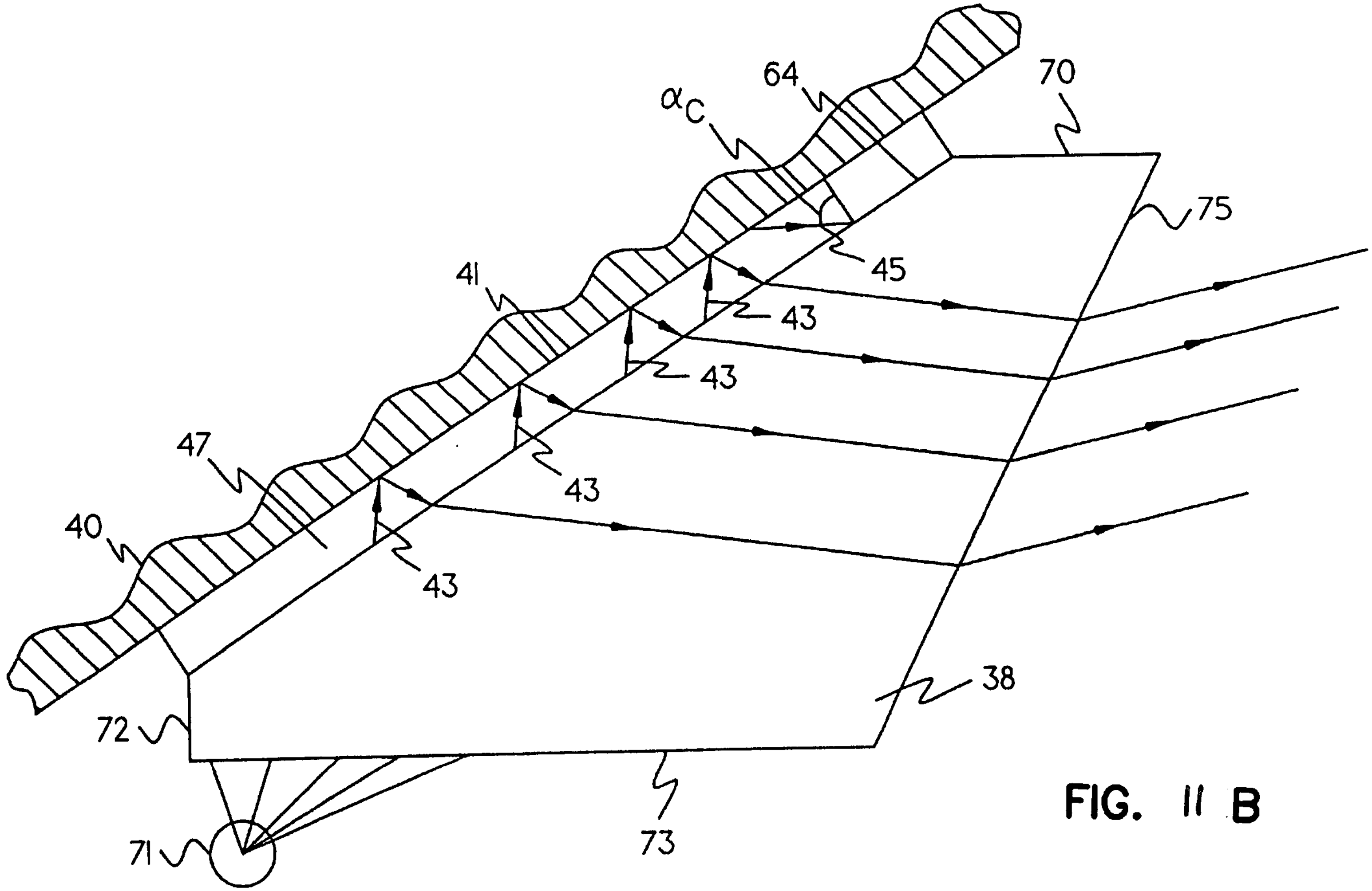

FIG. 11 B

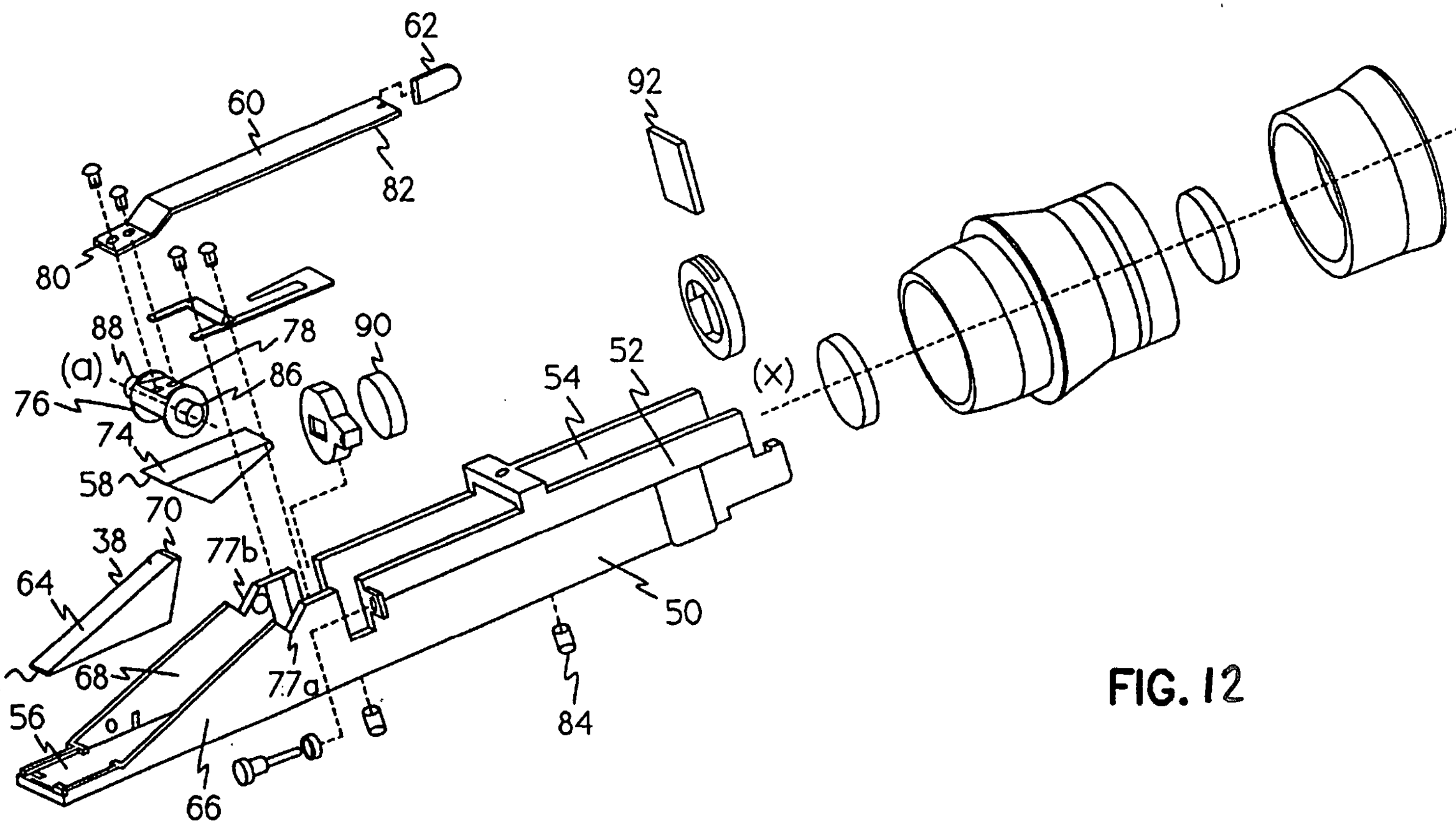
62
60
82
92
80
88
(a)
78
90
76
86
54
52
(x)
74
58
70
38
77b
64
50
72
68
77a
56
84
66

FIG. 12

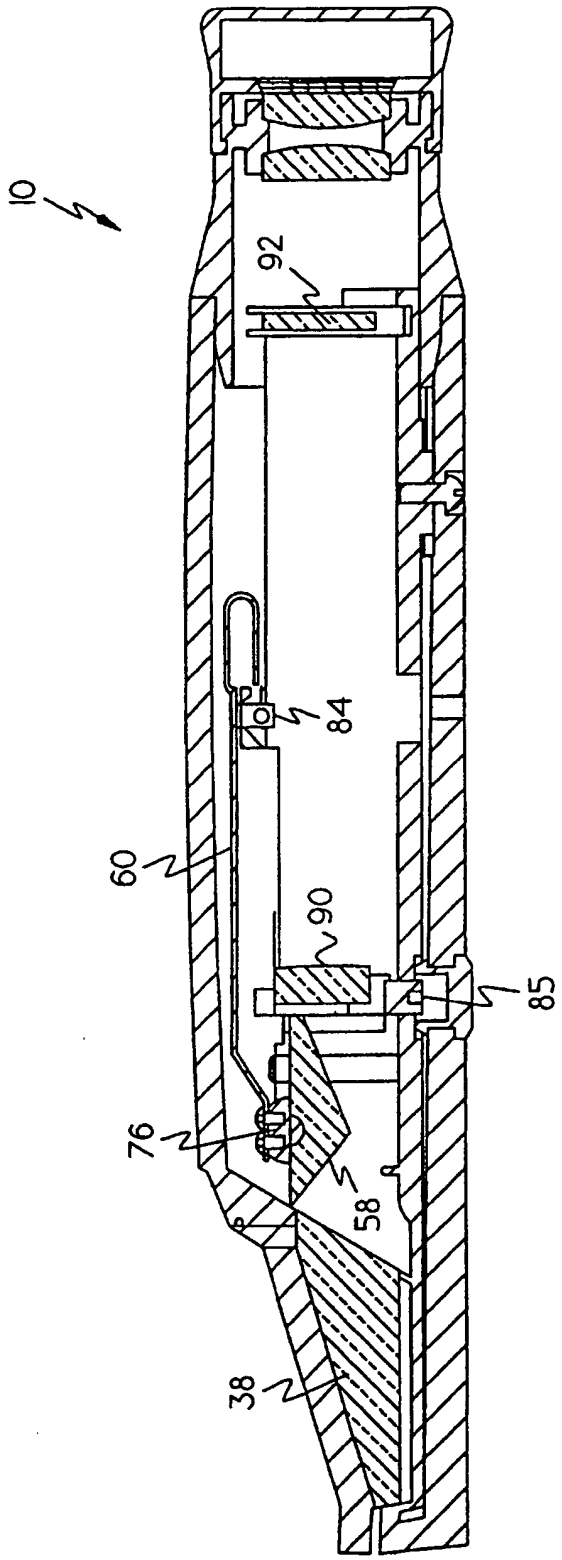

FIG. 13 A

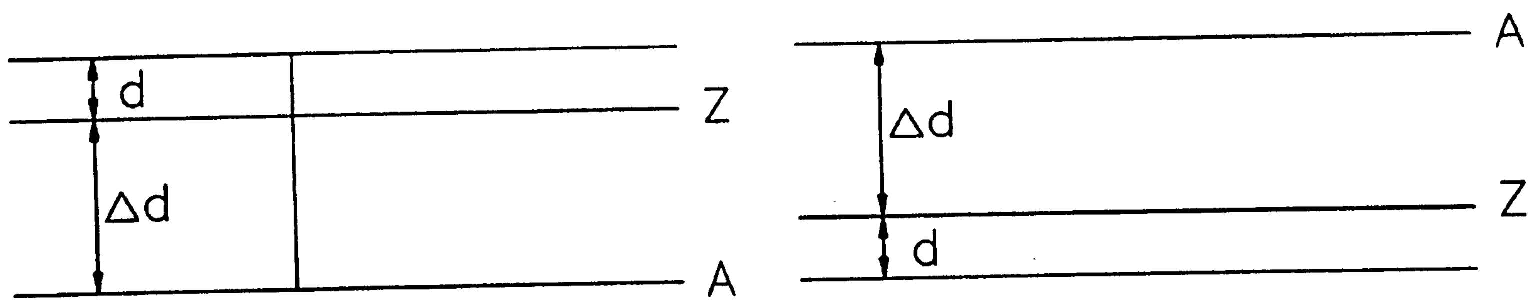

FIG. 13 B

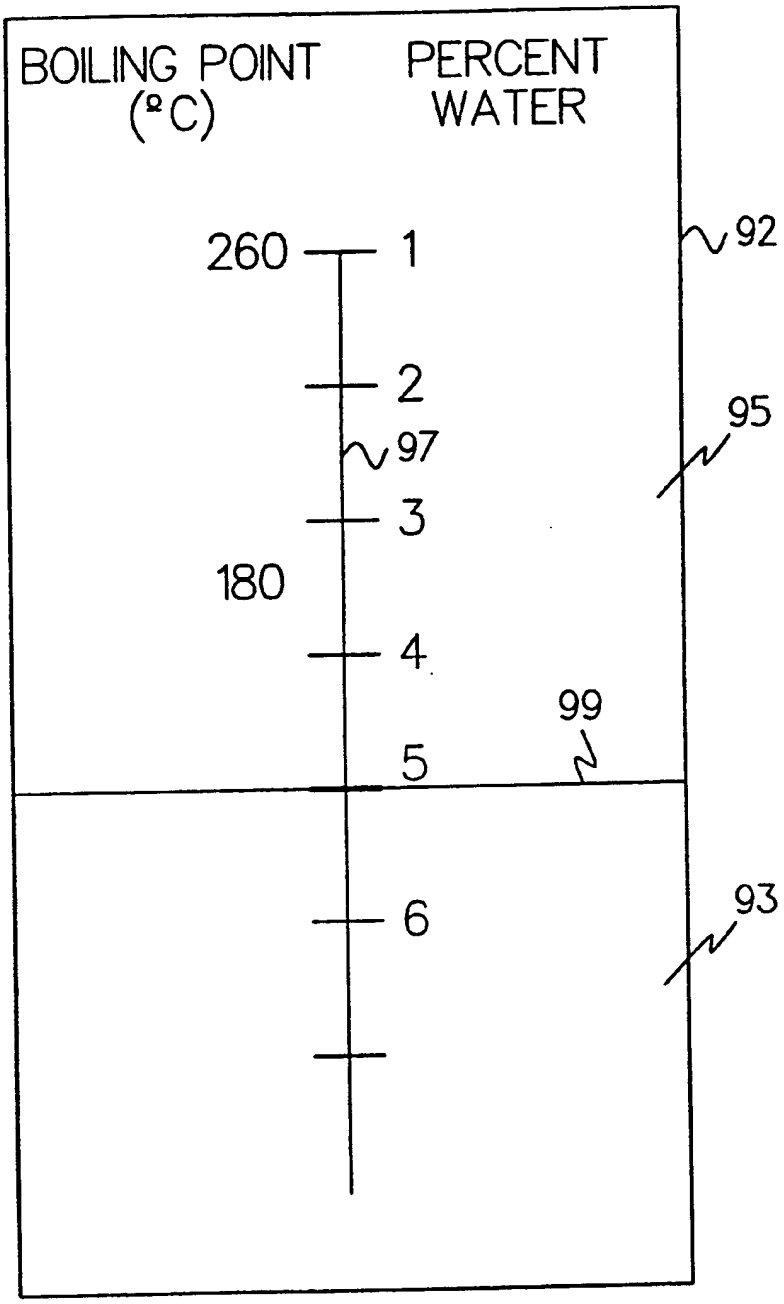

FIG. 13C

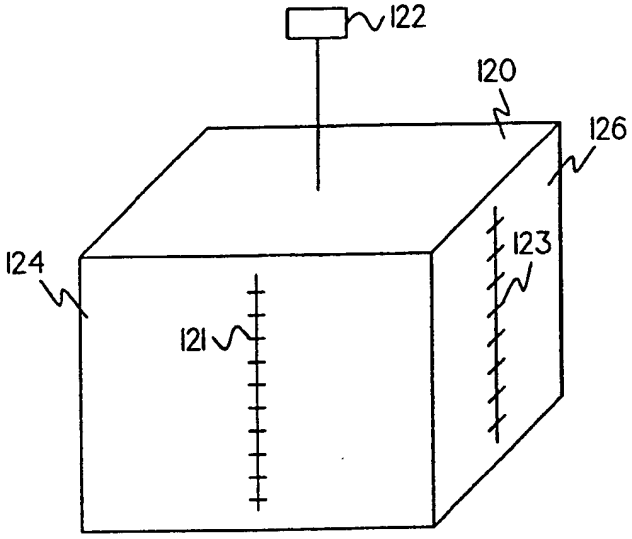

FIG. 13D

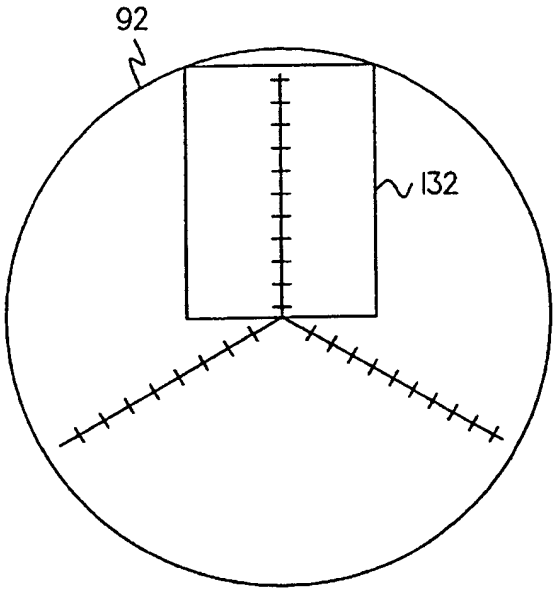

FIG. 13E

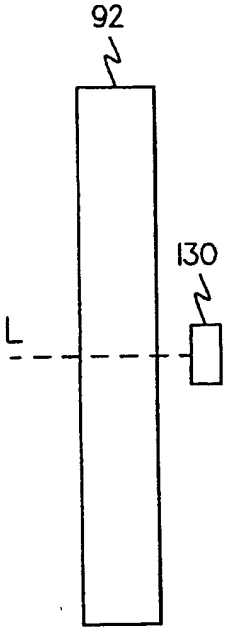

FIG. 13 F

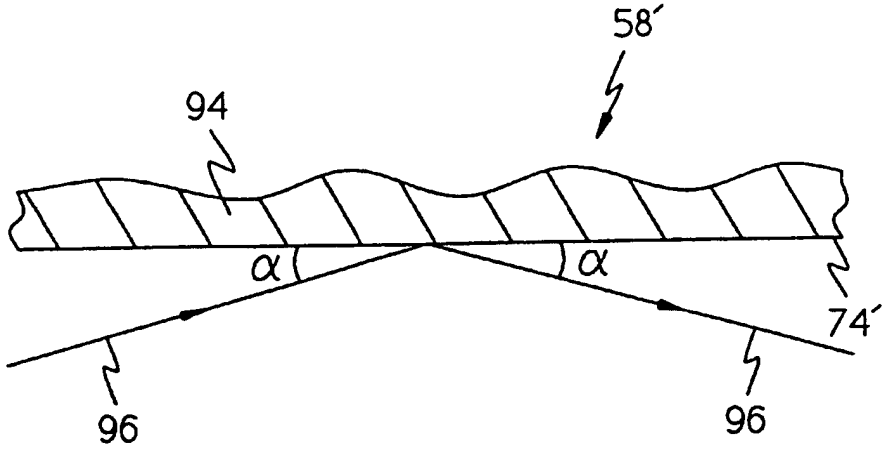

FIG. 14A

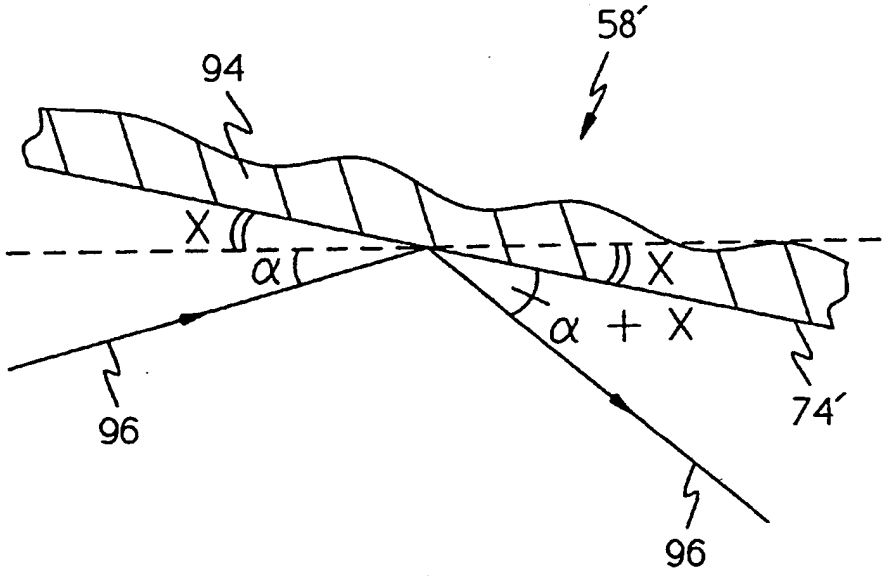

FIG. 14B

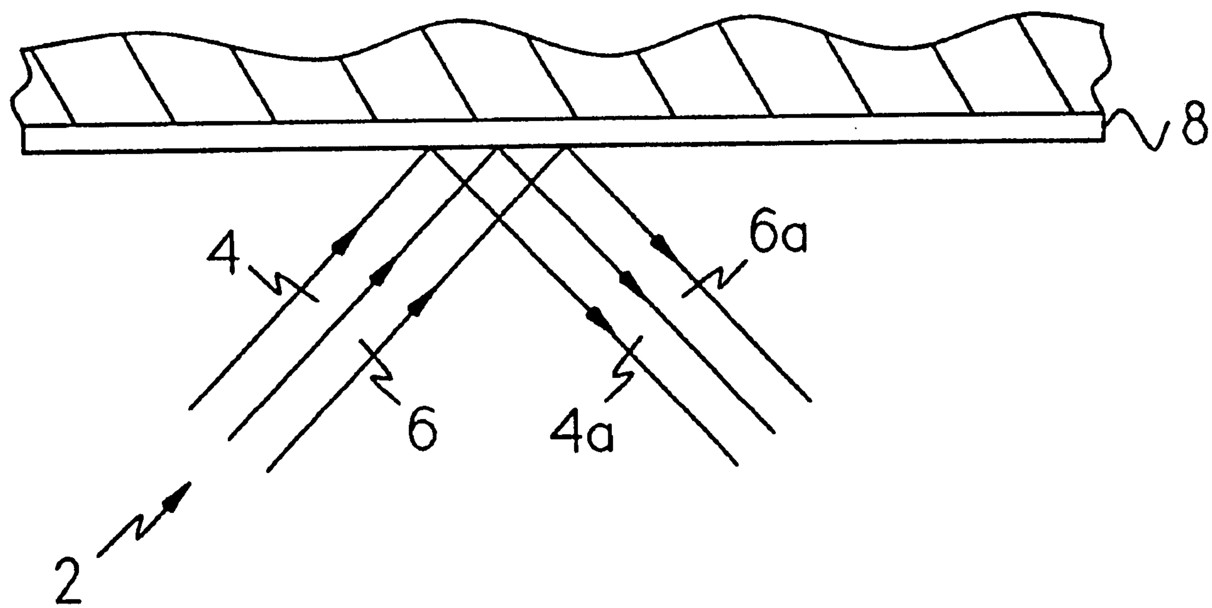

FIG. 15

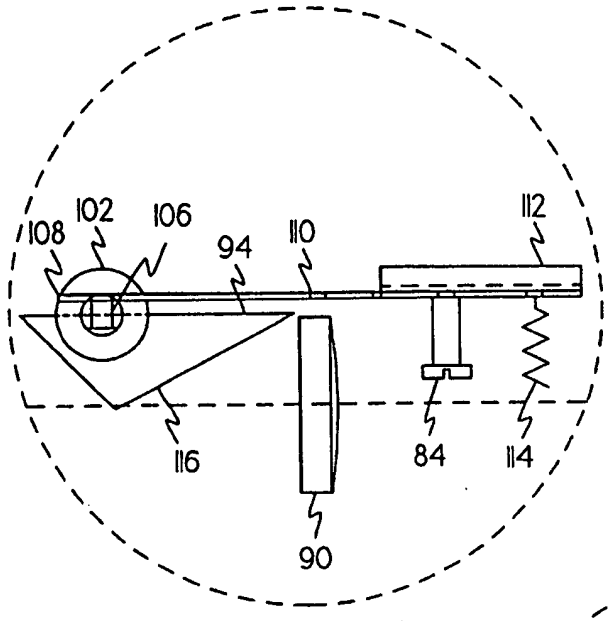

FIG. 16A

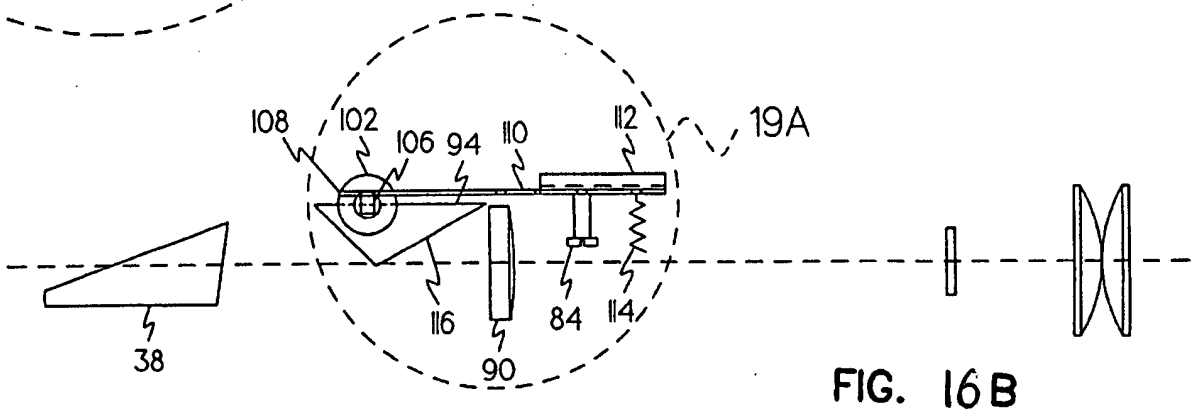

FIG. 16B

FIG. 16C

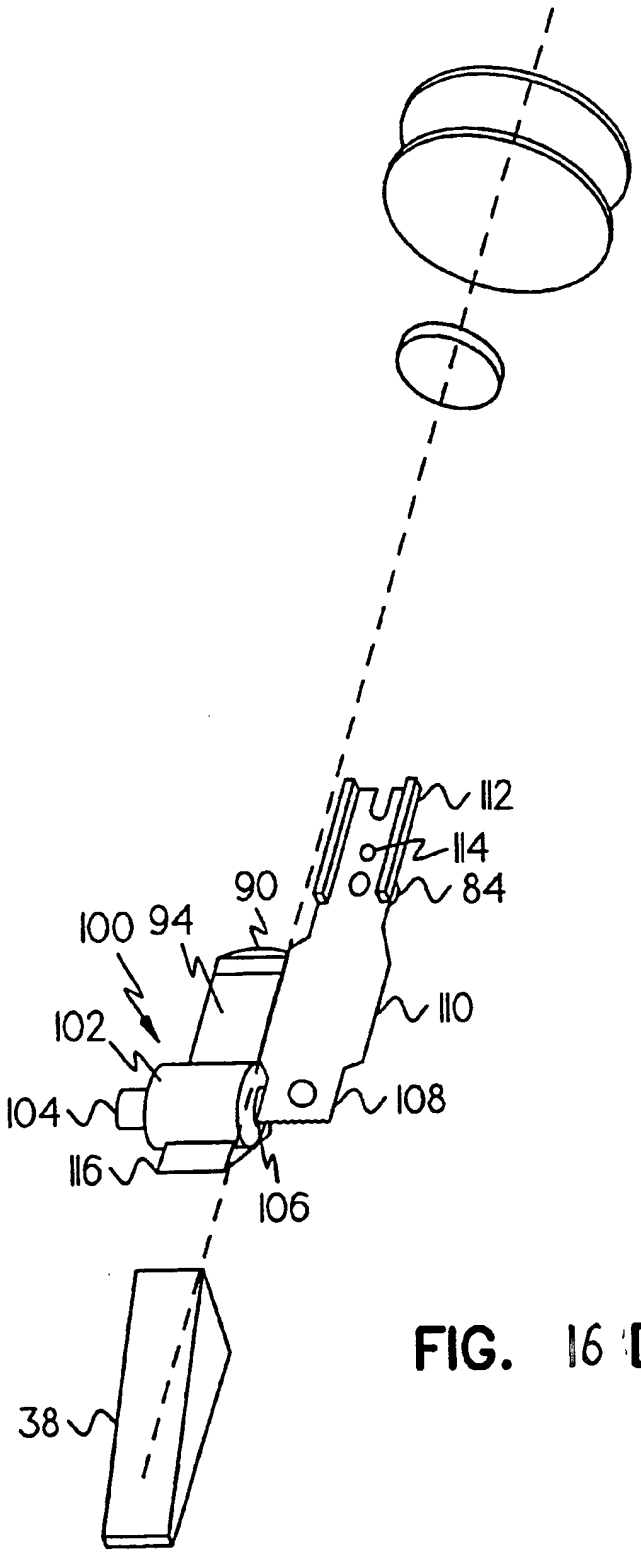

FIG. 16D

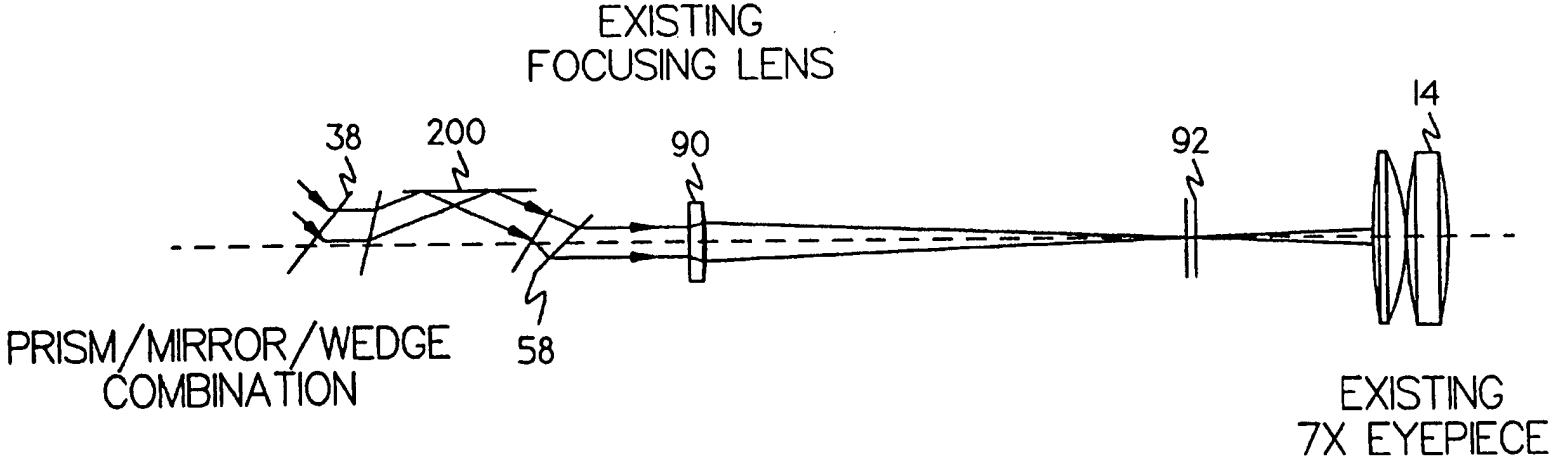
EXISTING
FOCUSING LENS
38
200
90
92
14
PRISM/MIRROR/WEDGE
COMBINATION
58
EXISTING
7X EYEPIECE

FIG. 17

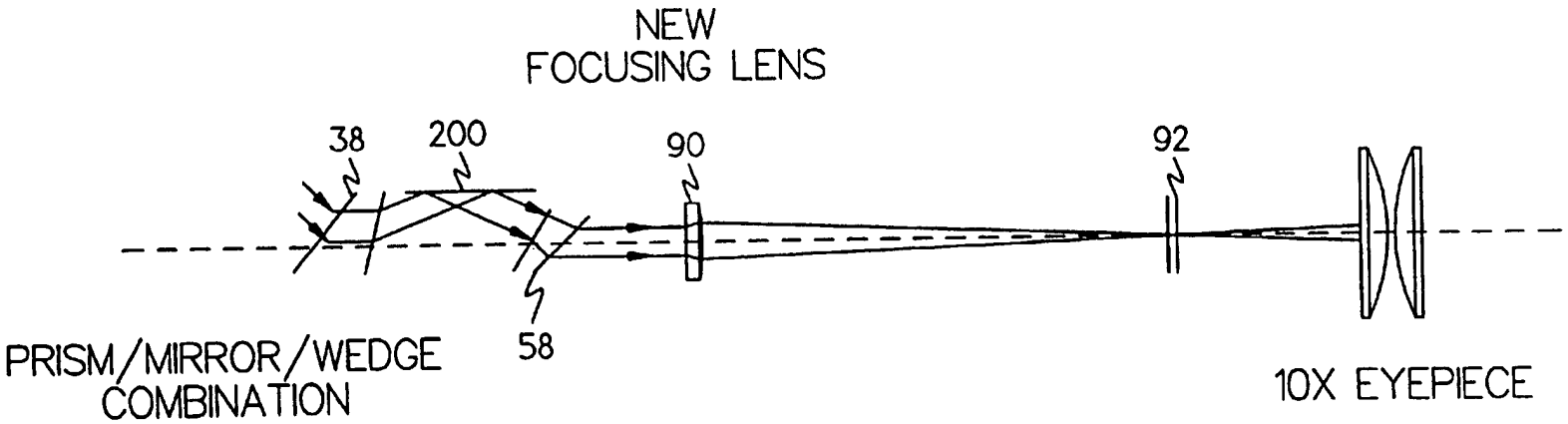
NEW
FOCUSING LENS
38
200
90
92
58
PRISM/MIRROR/WEDGE
COMBINATION
10X EYEPIECE

FIG. 18

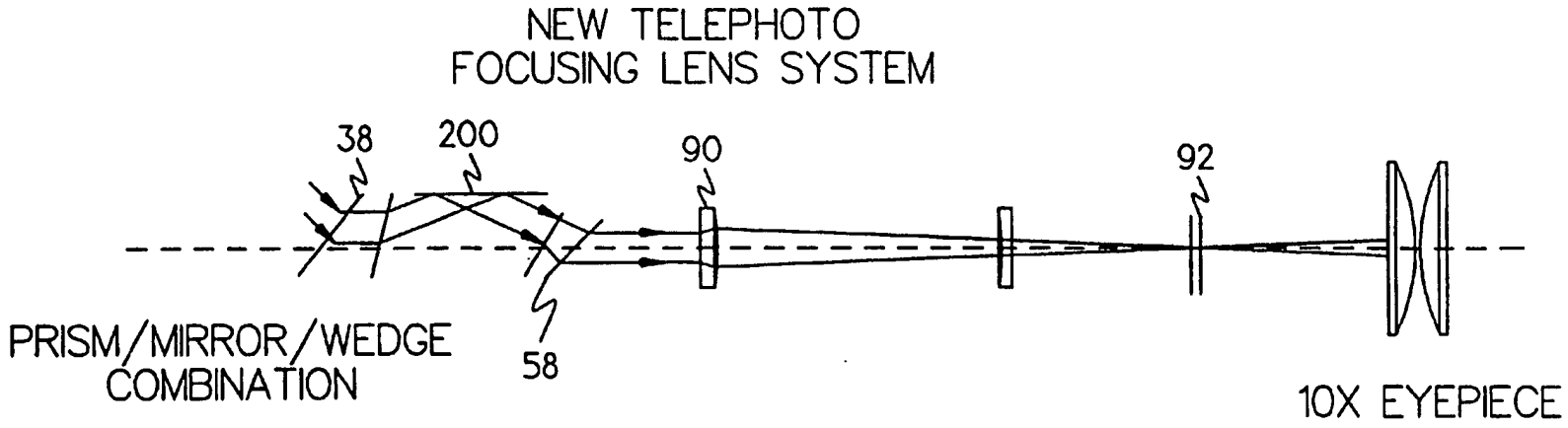
NEW TELEPHOTO
FOCUSING LENS SYSTEM
38
200
90
92
PRISM/MIRROR/WEDGE
COMBINATION
58
10X EYEPIECE

FIG. 19